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NECTARINELLA XAVANTINENSIS, A NEW NEOTROPICAL SOCIAL WASP (HYMENOPTERA: VESPIDAE; POLISTINAE)

SIDNEI MATEUS AND FERNANDO B. NOLL

Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Depto. de Biologia. USP. Av. Bandeirantes 3900. 14040-901 - Ribeirão Preto - SP - Brasil.
e-mail: sidmateu@usp.br. fax: 55 016 6335015

Abstract.—*Nectarinella xavantinensis*, a new epiponine species from the Neotropics, is described and the nest illustrated. This is the second known species in the genus and the first described from South America. A comparison with the other species from this genus is made. Comments regarding the biogeographical distribution of the genus are added.

Nectarinella Bequaert is a monotypic genus of social wasps. It belongs to the tribe Epiponini (Carpenter, 1993) of the family Vespidae, composed of polygynous, swarm-founding wasps. The only previously known species, *Nectarinella championi* (Dover, 1924) is recorded from Central America (Richards, 1978) and Colombia (Schremmer, 1977) and presents astelocyttarous nests (Richards, 1978; Wenzel, 1991). This paper describes a new species, *Nectarinella xavantinensis*, found in Mato Grosso, center-western Brazil.

Nectarinella xavantinensis, new species

Diagnosis: Predominantly brownish. Malar area reduced and bare, epistomal suture sinuate with rounded corners (Fig. Aa), clypeus wider than high (Fig. A). Head with sparse punctures with erect hairs, the interantennal area elevated forming a V-shaped protuberance (Fig. Bb). Pronotum grossly punctured with evident pronotal lip, acute pronotal lobule (Fig. Cc). Mesonotum and scutellum grossly punctured, there is a small space between the epistomal suture and the inner orbital margin in the lower part of the eye (Fig. Af).

Description:

Female: Mean forewing length 5.85 mm. *Structure*: frons sparsely punctured, with hairs in each minute puncture, covered with short pubescence. Clypeus wider than high and sinuous, usually with two short longitudinal indefinitely shaped markings, delimited by the epistomal suture (Fig. 1Aa). Epistomal suture with curved angles (Fig. 1Aa). Interantennal area forming an elevated protuberance (Fig. 1Bb). Malar area reduced and bare. Pronotum grossly punctured with hairs; dorsal pronotal carina evident, pronotal lobule forming an acute angle (Fig. 1Cc). Mesonotum with a reduced carina. Scutellum with hairs arising from large punctures. Mesoscutum sparsely punctured with short hairs and two stripes extending longitudinally, wider at the edges (Fig. 1Cd). Post-scutellum slightly narrower than scutellum, with parallel sides, anterior margin transverse, posterior margin rounded, shiny and almost impunctate; propodeum wider than long, broadly and shallowly depressed medially,

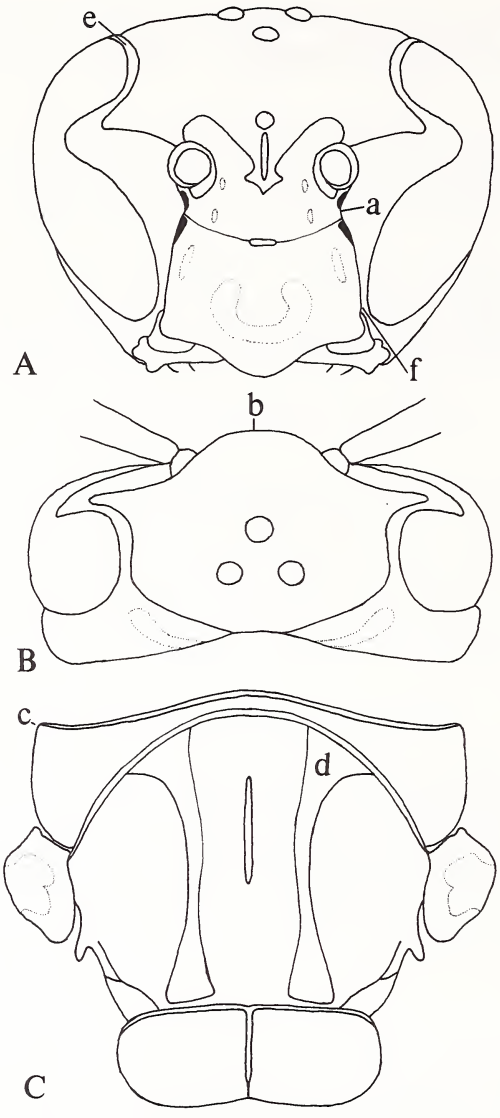

Fig. 1. Head (A, B) and thorax (C) of *Nectarinella xavantinensis*. Other explanations in the text.

more or less impunctate, with comparatively long hairs on the sides. The first two segments of the abdomen with recumbent hairs arising from fine punctures, giving a finely striated appearance; succeeding segments very closely punctate with short hairs. Legs with pubescent hairs maculae close to the articulations.

Color—head black and yellow, covered with short golden pubescence, clypeus yellow with hairs, usually with two brownish-light markings; interanntenal area yellow,

genae yellow having an ochraceous area extending to the occiput just behind the middle of each posterior ocellus; paraocullar spot yellow, continuous, reaching the occiput, frons black with median line above the antennal sockets. Eyes dark brown; antennae mostly ochraceous, lighter on the underside, outer side of flagellum, except the three apical articles, brownish-dark. Mandibles light brown, pronotum ochraceous with short golden brown hairs arising from large punctures, yellow line at the superior margin of the dorsal pronotal carina. Mesonotum yellow-ochraceous, scutellum predominantly yellow with golden brown hairs. Mesoscutum predominantly black with golden short hairs and two curved stripes. Post-scutellum yellow, propodeum yellow with comparatively long golden brown hairs on the sides. Abdomen brownish, the first two segments with dark brown short hairs, suceeding segments with short golden hairs, third to sixth segments brownish-light with lateral margin yellow; seventh segment ochraceous. Legs ochraceous with yellow maculae close to articulations, wings iridescent-hyaline, with cubito-radial and costal area darker than the rest, veins brownish-light with short hairs, tegulae ochraceous.

Male: Unknown.

Type material: holotype female, Brazil: Novo São Joaquim (Mato Grosso - April 04, 1996), Nova Xavantina region (14°45′S, 52°55′W). Collected by Mateus, S. & Noll, F.B. Holotype and two paratypes deposited in the collection of Museu de Zoologia—USP, Brazil; two paratypes in the Museu E. Goeldi, Brazil; two paratypes in the American Museum of Natural History.

Etymology: the specific name *N. xavantinensis* is a reference to the brazilian town of Nova Xavantina in the state of Mato Grosso.

Nest: Astelocyttarus. Found Apr. 04 1996, 80 km west of Nova Xavantina (center-western Brazil). The nest was located 3.5 meters high in a *Psidium* sp. tree (Myrtaceae), in a secondary branch with 30° slope in relation to the ground. Comb with 103 cells, all of them with eggs; no meconia were found, indicating that the nest was very young.

Envelope: Made of vegetal fibers mixed with salivary substances, predominantly light gray; with longitudinal green stripes (Fig. 2). Nest entrance located in the lower portion of the envelope, ring-shaped and 5 mm in diameter. As in *N. championi* the bark around the envelope showed small droplets of sticky substance which may serve against ant protection (Schremmer, 1977).

Comb: Located centrally, with lateral spaces between the envelope and cells, 2 cm wide above and 4 cm below. All cells were sessile, directly built on the substrate using the same material as the envelope. The cells were 3.5–3.7 mm wide. At the center of the comb, complete cells were 4 mm high. Lower cells usually 1 mm high were located at the periphery of the comb (Fig. 2). The cells had no paper bottom and the eggs were laid on the cell walls very close to the bottom. No droplets of stored nectar were found in any of the cells.

Remarks: *Nectarinella xavantinensis*, presents several morphological differences distinguishing it from *N. championi*. The most conspicuous features separating *N. xavantinensis* from *N. championi* are as follows.

Head: *Nectarinella xavantinensis* has sparses punctures with erect hairs. The interantennal area is more elevated in *Nectarinella xavantinensis* (Fig. 1Bb), forming a V-shaped protuberance. The paraocular spot reaches the occiput in *Nectarinella xavantinensis* (Fig. 1Ae) but in *Nectarinella championi* it is interrupted in the occelli

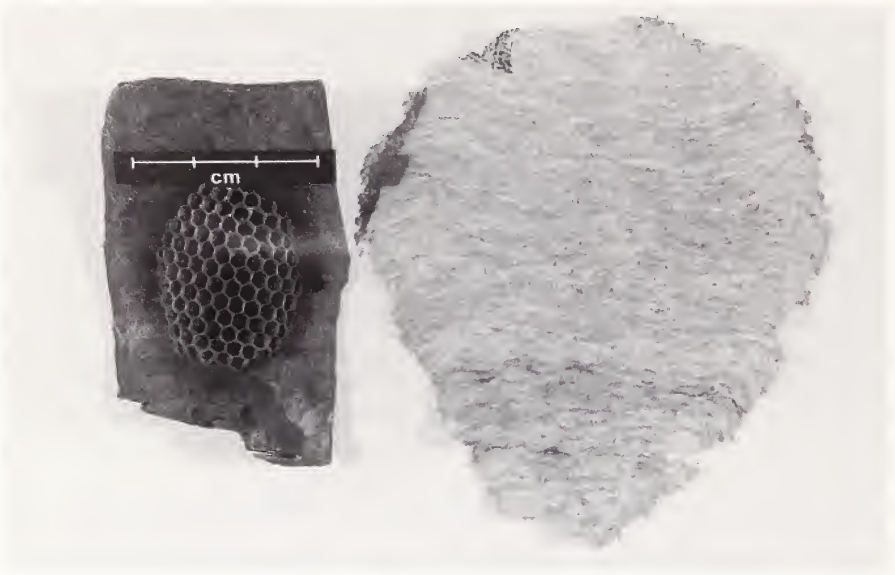

Fig. 2. Nest (comb—left and envelope—right) of *Nectarinella xavantinensis*.

height. The clypeus is wider than high in *Nectarinella xavantinensis* (Fig. 1A), in *Nectarinella championi* it is as wide as high. In *Nectarinella xavantinensis* epistomal suture is sinuate, with rounded corners, especially in the anterior tentorial fovea. There is a small space between the epistomal suture and the inner orbital margin in the lower part of the eye (Fig. 1Af). In *Nectarinella championi* the space between the tentorial fovea and the epistomal suture forms a 90° angle. This suture reaches the mandible passing through the inner orbital margin.

Pronotum: In *Nectarinella xavantinensis* grossly punctured with short hairs and the pronotal lip is much more evident than in *Nectarinella championi*. The pronotal lobule in *Nectarinella xavantinensis* (Fig. 1Cc) is acute and in *Nectarinella championi* is around.

Mesonotum: grossly punctured with a small sulcus in the anterior part. In *Nectarinella championi* this sulcus is more evident with iridescent hairs and short bristles. The scutellum in *Nectarinella xavantinensis* is grossly punctured with erect bristles. In *Nectarinella championi* the punctures are thiner.

Abdomen: *Nectarinella xavantinensis*—Brownish with fine punctures, short hairs and erect bristles close the margins. First segment with central spot, second segment with marginal maculae and sparse hairs. Other segments with stripes of yellow spots near the margins, short hairs and erect bristles. In *Nectarinella championi* the abdomen is predominantly ochraceous with stripes at the distal margins, and short hairs.

Legs: *Nectarinella xavantinensis* has maculae close to articulations and pubescent hairs. In *Nectarinella championi* these maculae are absent.

Wings: *Nectarinella xavantinensis*—veins brownish-light with short hairs and the area between the cells Cu radial and costal are darker than the rest. In *Nectarinella championi* short hairs are spread in all wings regions.

Finally, the biogeographic distribution of both *Nectarinella* species is remarkable especially because it differs from other groups with wide distribution such as *Agelaia* and *Polybia* (Richards, 1978). These two species are vicariant. However, their presence in two disjunct areas reflects either scarce field collections or truly disjunct distribution. Evidently, the solution will depend on additional collecting.

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LITERATURE CITED

Carpenter, J. M. 1993. Biogeographic patterns in the Vespidae (Hymenoptera): Two views of Africa and South America. *In:* Peter Goldbatt (ed.), Biological relationships between Africa and South America. Yale Univ. Press, New Haven and London.

Dover, C. 1924. Notes on the genus *Nectarina* Shuckard (Vespidae). Psyche 31(6):305–307.

Richards, O. W. 1978. The social wasps of the Americas excluding the Vespinae. British Museum (Natural History), London.

Schremmer, F. 1977. Das Baumrinden-Nest der neotropischen Faltenwespe *Nectarinella championi,* umgeben von einem Leimring als Ameisen-Abwehr (Hymenoptera: Vespidae). Entomol. Germ. 3(4):344–355.

Wenzel, J. W. 1991. Evolution of the nest architecture. In K. G. Ross and R. W. Matthews (eds.), The social biology of wasps. Cornell Univ. Press, Ithaca: 480–519.

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